1.

A company has an extranet.

Explain what is meant by an extranet.

Extranet is a network controlled by a company.

It is restricted/private network

It allows access for partners/vendors/suppliers

It allows access for authorised customers

[3]

2.

A headteacher is planning to hold a video-conference with headteachers from other schools.

The headteachers already have basic internet connected desktop computer systems including a monitor, keyboard and mouse.

(a) Identify **three** pieces of additional hardware they need in order to participate in a video-conference.

1 Microphone

2 Video camera/webcam

3 Speakers/headphones

[3]

(b) A technician is setting up the hardware for the video-conference.

State **three** tasks the technician would need to do to set up the hardware for the video-conference.

You can assume that the hardware required has already been purchased.

1 Ensure the video camera/webcam, microphone, speakers/headphones are switched on

2 Ensure the hardware devices are connected

3 Carry out tests on the microphone, video camera/webcam and speakers/ headphones

[3]

Adjust the video camera/webcam so the headteacher can be seen
Check the volume levels
Check internet connectivity

3.

Compare the similarities and differences between Bluetooth and wi-fi.

Similiarities

Both use wireless communications
Both use radio frequencies for comunication
Both allow several devices to be connected
Both use security when sending data

Differences
wi-fi has a faster data transfer rate
wi-fi has a greater range of transmission
wi-fi uses key matching encryption
Bluetooth uses WEP and WPA security together
wi-fi can be broadcast
wi-fi connects more devices
Bluetooth has a lower frequency than wi-fi

[4]

4.

Describe how data is stored and managed when using cloud computing.

The data gets stored on remote servers accessed by the cloud within data centres.

The server is leased/rented on a monthly basis to the user.

The data is managed by a third-party cloud provider.

Cloud service providers manage and maintain data transferred to the cloud

[4]

5.

Roger is a 16-year-old student who is setting up a password for his computer. He has four ideas for the passwords he may use.

(a) Select the most appropriate password from the list and give reasons for your choice.

Roger2008

R08123

RogerZpa55w0rd

6lRrg08&

Password 6lRrg08&

Reasons it has long password.

It has ltrong password.

Hard to guess .

Not directly related to personal details

[3]

(b) State **one** way of avoiding password interception.

Changing password regularly and also use of anti-spyware.
Be aware of shoulder surfing.

[1]

6.

Many organisations use audio-conferencing or video-conferencing as some employees work from home.

Discuss the advantages and disadvantages of using audio-conferencing rather than video-conferencing.

Advantages

Simpler interface for employees.

Less equipment is required therefore it is cheaper.

More flexibility so they can dress casually for the employee as they do no need to be in front of a camera.

No issues with lip .

Can do other tasks as there is no camera

Disadvantages

Cannot see the body language of the people in the conference.

Cannot tell if the employees are paying attention.

Fewer features than video-conferencing.

Less personal as you cannot see the person.

Harder to control the meeting as you do not know who is speaking next

[6]

7.

The medical centre follows a data protection act, so the patient's data is protected by law.

State **four** principles of a typical data protection act.

1 Data is processed lawfully/fairly.

2 Data processing must be transparent.

3 Personal data must be accurate.

4 Personal data must be processed in a secure manner.

[4]

8. **(a)** Explain what is meant by electronic conferencing.

This is a communication.

A structured discussion between two or more people.

This is carried out virtually over the internet.

Involves video, web and audio

[2]

(b) State, giving a reason for your choice, the hardware required to set up an electronic conference.

Computer/smartphone to connect the peripherals used in the conference

Camera/webcam to capture moving images of the conference/participants

Monitors to view the participants/contents/web page of the conference

Router to connect to the internet

[4]

9.

A student is able to access a secure area of the school's website using zero login.

(a) Explain what is meant by zero login.

It is a security method to protect the resources/data that the user can access
It is an authentication method

[2]

(b) Biometrics could be used as another method of accessing the secure area.

State **three** examples of biometric methods.

1 Voice recognition

2 Fingerprint scanning

3 Facial recognition

[3]

10.

(a) Discuss the advantages and disadvantages of using web-conferencing rather than video-conferencing for meetings.

Advantages

Reduced cost as less extra hardware/ dedicated software is needed

Far simpler interface for employees

Fewer issues with lip sync/video lag/buffering

Can be used on more devices

Disadvantages

Requires internet connection and it must be stable/reliable

Cannot see the body language of the people in the conference

Cannot tell if the employees are paying attention

[6]

(b) An organisation has decided to use video-conferencing for its meetings.

State the hardware and software required to set up the video-conference.

Hardware

Camera
Monitor
Microphone
Speakers
Router

Software
Software/hardware drivers
Video conferencing softwARE

[4]

11.